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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,351	09/17/2003	Shmuel Shapira	SYM 306	8190

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KOLISCH HARTWELL, P.C.
520 S.W. YAMHILL STREET
SUITE 200
PORTLAND, OR 97204

EXAMINER	
BOGART, MICHAEL G	

ART UNIT	PAPER NUMBER
3761	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,351	SHAPIRA, SHMUEL	
	Examiner	Art Unit	
	Michael G. Bogart	3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) *37-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31,33-36 and 48-51* is/are rejected.

7)☒ Claim(s) *32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/17/03 & 3/11/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

Claims 37-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11 July 2005.

Claims 45-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11 July 2005.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --System and Method for Assessing Fluid Distribution in a Urine Detection Network--.

Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6, 8-10, 12, 14-29, 33-35 and 48-51 are rejected under 35 U.S.C. § 102(e) as being anticipated by Friedman *et al.* (US 6,774,800 B2).

Regarding claims 1 and 36, Friedman *et al.* teach a urine detection network, comprising:

a first detector (16) configured to service a first region of a urine collection article (2); and

at least a second detector (16') operatively coupled to the first detector and configured to service a second region of the urine collection article (2);

wherein the first detector (16) and the second detector (16') are collectively configured to indicate a fluid distribution of the urine collection article (2)(column 3, lines 31-56)(column 11, line 32-column 12, line 55)(see figure 1a, below).

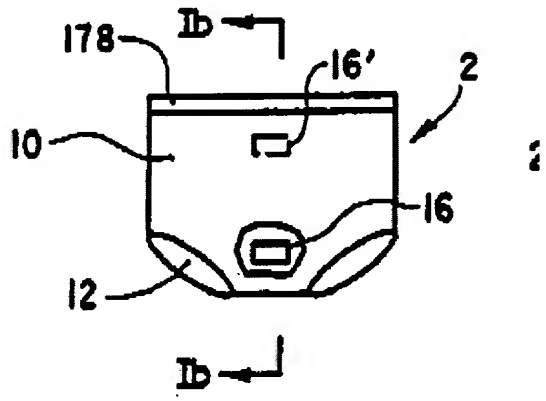

FIG. 1a

Regarding claims 2 and 25, Friedman *et al.* teach that the urine detection network has a net capacitance derived from at least a first capacitance of the first detector (16) and a second capacitance of a second detector (16'), and wherein the net capacitance of the urine detection

network indicates fluid distribution of the urine collection article (2)(e.g., the article is at or nearing capacity near one of the detectors but not the other)(column 6, line 48-column 7, line 33) (column 11, line 32-column 12, line 55)(figure 5).

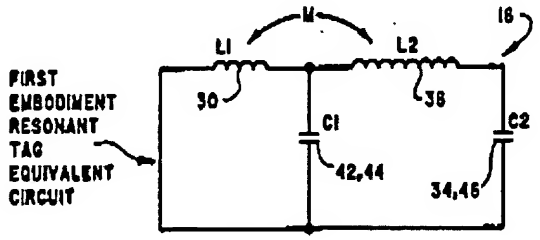

FIG. 5

Regarding claim 3, Friedman *et al.* teach that the capacitance ranges between a predetermined minimum and a predetermined maximum (eg., dry and full capacity)(column 11, line 32-column 12, line 55)(column 13, lines 1-32).

Regarding claim 6, Friedman *et al.* teach that the urine detection network has a net capacitance derived from first and second inductance from the first and second detectors (16, 16'), respectively, wherein the net inductance of the urine detection network indicates fluid distribution of the urine collection article (2)(column 6, line 48-column 7, line 33) (column 11, line 32-column 12, line 55)(figure 5).

Regarding claims 8, 9, 12, 26 and 27, Friedman *et al.* teach that a characteristic of the first detector (16) measurably changes to a first value in response to a first threshold of urine wetting the first region of the urine collection article (2), and wherein a characteristic (such as capacitance) of the second detector (16') measurably changes to a second value in response to a second threshold of urine wetting the second region of the urine collection article (2) wherein the

first value is different than the second value (column 11, line 32-column 12, line 55)(column 13, lines 1-32).

Regarding claims 10, 15 and 16, Friedman *et al.* teach that the measured values are a function of capacitance and that a dielectric property of the first detector (16) measurably changes to a first value in response to a first threshold of urine wetting the first region of the urine collection article (2), and wherein a dielectric property of the second detector (16') measurably changes to a second value in response to a second threshold of urine wetting the second region of the urine collection article (2)(column 6, line 48-column 7. line 34)(column 9, line 60-column 10, line 28).

Regarding claim 14, Friedman *et al.* teach that the first threshold is a more than nominal amount of urine (column 11, lines 32-55).

Regarding claims 17 and 18, Friedman *et al.* teach that the first detector (16) teaches a sensitizer including a dry ionized substance (column 10, lines 5-28).

Regarding claim 19 and 20, Friedman *et al.* teach an interface module (30, 38) in communication with first and second detectors (16, 16'), the interface module (30, 38, 49) includes an energy converting module (54) to wirelessly interact with a monitoring subsystem (58, 60) based on fluid distribution in the collection article (2)(see figures 5 and 6).

Regarding claims 21-24, Friedman *et al.* teach a connection node (54) from which a characteristic including net capacitance and/or net inductance of the urine detection network can be directly measured by detector (58).

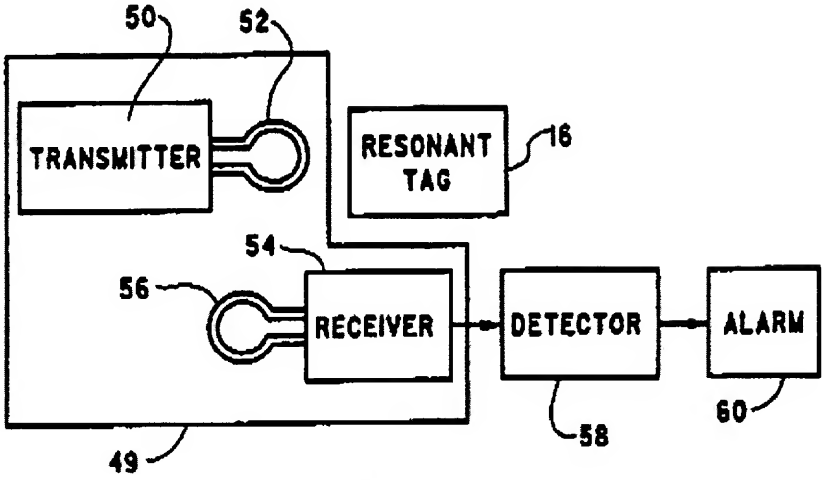

FIG. 6

Regarding claims 28 and 29, Friedman *et al.* teach that the first and second detectors (16, 16') are arranged on a flexible substrate (32) configured to be incorporated into a diaper (2).

Regarding claims 33 and 34, Friedman *et al.* teach first and second detectors (16, 16') comprising a conductive path (30, 34, 36, 38, 40) which is a shaped wire attached to a dielectric (non conductive of direct current) substrate (32)(figure 4a).

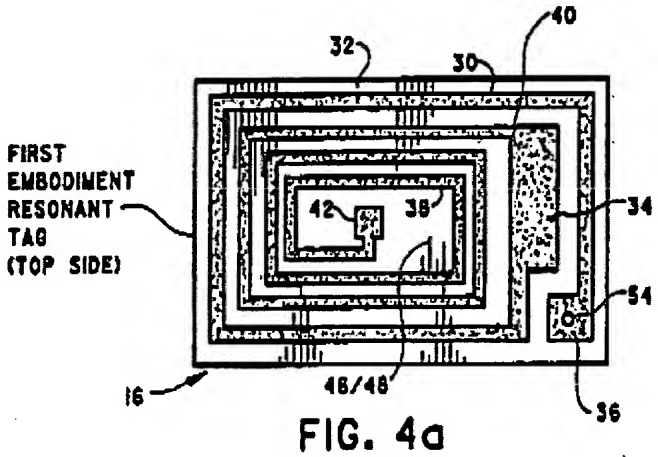

FIG. 4a

Claim 35 is a product-by-process claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

In the instant case, the claimed steps do not produce an end product that is materially different from that shown by Friedman *et al.* in figure 6. Regardless of how it was made, the referenced tag (16) consists of a flattened conductive wire attached to a non conductive substrate (32) that functions identically to that claimed by the instant invention.

Regarding claim 48, Friedman *et al.* teach a diaper (2) having an absorbent core (10) for containing urine and the urine detection network addressed in the discussion of claim 1, supra.

Regarding claims 49 and 50, see the discussion of claims 1, 10 and 48, supra.

Regarding claim 51, Friedman *et al.* teach a monitoring subsystem (58, 60) for determining the net characteristic of the urine detection network discussed supra.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 5, 11 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Friedman et al.

Friedman *et al.* do not teach the specific type of ranges for the capacitance of the urine detector or thresholds of urine which trigger the device.

One of ordinary skill in the art at the time of the invention would have understood that modifying the point at which the device is triggered will directly determine at what amount of urine collected at a given sensor will cause the device to notify a user via the alarm. Depending on a particular application, in some cases such a person would want to be notified of anything greater than trace amount, in other cases, notification would not be required until the diaper reaches full capacity. It would have been obvious for such a person to modify the trigger point of the device of Friedman *et al.* depending on the particular circumstances of use of the diaper.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Friedman *et al.* in view of Mahgerefteh *et al.* (US 5,570,082 A).

Friedman *et al.* do not teach a detector having a coil shaped conductor.

Mahgerefteh *et al.* teach a diaper wetness sensor having a coiled conductor (5). This provides for a greater surface area than an uncoiled conductor has and facilitates wetness detection.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to add the coiled conductor of Mahgerefteh *et al.* to the diaper wetness detector of Friedman *et al.* to improve its ability to detect wetness.

Claims 30 and 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Friedman *et al.* in view of Okada *et al.* (US 4,704,108).

Friedman *et al.* do not teach two detectors which are elements of a single planar conductive element.

Okada *et al.* teaches a water detecting system in a diaper comprising elongated planar ribbons of conductive material (13) that extend the length of the diaper. This design is simpler than having two completely separate detectors spaced apart in the diaper. Also, this design allows wetness detection along the entire length of the diaper.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the elongated conductors of Okada *et al.* in place of the multiple detectors in the device of Friedman *et al.* in order to provide a simplified yet extended range of wetness detection.

Allowable Subject Matter

Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The art of record does not teach or fairly disclose an absorbent article having multiple urine detectors which form elements of a single conductive element wherein folding a of the conducive element creates an LC (capacitor-inductor) circuit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bogart whose telephone number is (571) 272-4933.

In the event the examiner is not available, the Examiner's supervisor, Tatyana Zalukaeva may be reached at phone number (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for formal communications. For informal communications, the direct fax to the Examiner is (571) 273-4933.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bogart
20 September 2005

TATYANA ZALUKAEVA
PRIMARY EXAMINER